

AMENDMENTS TO THE CLAIMS

Following is a complete set of claims as amended with this Response. This complete set of claims includes amended claims 1, 3, 11, 12, 19, and 20.

1. (Currently Amended) A method of monitoring the performance of an automatic capture verification feature in a cardiac stimulation device, the method comprising:

monitoring the number of backup stimulation pulses delivered at a high-energy output setting, and storing the number of backup stimulation pulses delivered at the high-energy output setting;

monitoring the number of primary stimulation pulses delivered at each of a plurality of stimulation output settings, and storing the number of primary stimulation pulses at the respective output settings;

wherein at least one of the plurality of stimulation output settings of the primary stimulation pulses is at the high-energy output setting; and

comparing the stored number of backup stimulation pulses to the stored number of primary stimulation pulses to evaluate the performance of the automatic capture verification feature;

wherein the step of comparing the stored number of backup stimulation pulses to the stored number of primary stimulation pulses comprises selectively comparing the number of backup stimulation pulses delivered at the high-energy output setting with the number of primary stimulation pulses delivered at the high-energy output setting.

2. (Original) The method of claim 1, further comprising the step of selecting a stimulation pulse output setting based on the historical frequency of occurrence of the primary stimulation pulses and the backup stimulation pulses.

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3. (Currently Amended) The method of claim 2, wherein the step of storing the number of backup stimulation pulses comprises storing the number of the backup stimulation pulses in a first histogram bin assigned to a the high-energy output setting.

4. (Original) The method of claim 3, wherein the step of storing the number of primary stimulation pulses comprises storing the number of the primary stimulation pulses in a second histogram bin.

5. (Original) The method of claim 4, further comprising graphically displaying the first histogram and the second histogram.

6. (Original) The method of claim 1, further comprising the step of determining an expected remaining life of a power source based on a historical frequency of occurrence of the primary stimulation pulses and the backup stimulation pulses.

7. (Original) The method of claim 1, further comprising the step of evaluating the integrity of the stimulation device based on a historical frequency of occurrence of the primary stimulation pulses and the backup stimulation pulses.

8. (Original) The method of claim 1, wherein the step of storing the number of backup stimulation pulses comprises the step of storing the number of backup stimulation pulses delivered to each cardiac chamber.

9. (Original) The method of claim 8, wherein the step of storing the number of backup stimulation pulses comprises the step of storing the number of backup stimulation pulses delivered to each stimulation site.

10. (Original) The method of claim 9, wherein the step of storing the number of backup stimulation pulses comprises the step of storing the number of backup stimulation pulses delivered to each stimulation site in at least one cardiac chamber.

11. (Currently Amended) A stimulation device that monitors the performance of an automatic capture verification feature, comprising:

a pulse generator that selectively generates backup stimulation pulses at a high-energy output setting and primary stimulation pulses at each of a plurality of stimulation output settings;

wherein at least one of the plurality of stimulation output settings of the primary stimulation pulses is at the high-energy output setting;

a memory that stores the number of backup stimulation pulses at the high-energy output setting and stores the number of primary stimulation pulses delivered at each of a plurality of stimulation output settings;

a counter that increments the stored number of backup stimulation pulses stored in the memory, wherein the counter further increments the stored number of primary stimulation pulses when a primary stimulation pulse is delivered at a given output setting; and

a controller that is operative to compare the stored number of backup stimulation pulses to the stored number of primary stimulation pulses to allow for an evaluation of the performance of the automatic capture verification feature;

wherein the controller is operative to selectively compare the number of backup stimulation pulses delivered at the high-energy output setting with the number of primary stimulation pulses delivered at the high-energy output setting.

12. (Currently Amended) The stimulation device of claim 11, wherein the memory stores the number of occurrences of the backup stimulation pulses in a histogram bin assigned to a the high-energy output setting.

13. (Original) The stimulation device of claim 12, wherein the counter increments the histogram bin each time a backup stimulation pulse is delivered at the high-energy output setting in response to loss of capture.

14. (Previously Presented) The stimulation device of claim 13, wherein the memory stores the number of occurrences of the primary stimulation pulses in a plurality of histogram bins each assigned to a stimulation output setting.

15. (Previously Presented) The stimulation device of claim 14, wherein the memory stores the number of the primary stimulation pulses in a plurality of histogram bins each assigned to a range of stimulation output settings.

16. (Original) The stimulation device of claim 11, wherein the counter stores the number of the primary stimulation pulses in one of the plurality of histogram bins, each time a primary stimulation pulse is delivered at the given output setting.

17. (Previously Presented) The stimulation device of claim 11, wherein the memory stores, in a first histogram, the number of backup stimulation pulses delivered to each stimulated cardiac chamber.

18. (Previously Presented) The stimulation device of claim 17, wherein the memory stores, in a second histogram, the number of primary stimulation pulses delivered at the plurality of stimulation output settings delivered to each stimulated cardiac chamber.

19. (Currently Amended) A stimulation device that monitors the performance of an automatic capture verification feature, comprising:

means for storing a number of backup stimulation pulses delivered at a high-energy output setting by the device;

means for incrementing the stored number of backup stimulation pulses delivered at the high-energy output setting;

means for storing a number of primary stimulation pulses delivered at each of a plurality of stimulation output settings;

wherein at least one of the plurality of stimulation output settings of the primary stimulation pulses is at the high-energy output setting;

means for incrementing the stored number of primary stimulation pulses at the respective output settings; and

means for comparing the stored number of backup stimulation pulses to the stored number of primary stimulation pulses to evaluate the performance of the automatic capture verification feature;

wherein the means for comparing the stored number of backup stimulation pulses to the stored number of primary stimulation pulses comprises selectively comparing the stored number of backup stimulation pulses delivered at the high-energy output setting with the stored number of primary stimulation pulses delivered at the high-energy output setting.

20. (Currently Amended) The stimulation device of claim 19, wherein the means for storing a number of backup stimulation pulses comprises storing the number of occurrences of the backup stimulation pulses in a histogram bin assigned to a the high-energy output setting.

21. (Original) The stimulation device of claim 20, wherein the incrementing means increments the histogram bin each time a backup stimulation pulse is delivered at the high-energy output setting in response to loss of capture.

22. (Previously Presented) The stimulation device of claim 21, wherein the means for storing a number of primary stimulation pulses comprises storing the number of occurrences of the primary stimulation pulses in a plurality of histogram bins each assigned to a stimulation output setting.

23. (Previously Presented) The stimulation device of claim 22, wherein the means for storing a number of primary stimulation pulses comprises storing the number of the primary stimulation pulses in a plurality of histogram bins each assigned to a range of stimulation output settings.

24. (Original) The stimulation device of claim 23, wherein the incrementing means stores the number of the primary stimulation pulses in one of the plurality of histogram bins, each time a primary stimulation pulse is delivered at the given output setting.

25. (Previously Presented) The stimulation device of claim 19, wherein the means for storing a number of backup stimulation pulses comprises storing, in a first histogram, the number of backup stimulation pulses delivered to each stimulated cardiac chamber.

26. (Previously Presented) The stimulation device of claim 25, wherein the means for storing a number of primary stimulation pulses comprises storing, in a second histogram, the number of primary stimulation pulses delivered at the plurality of stimulation output settings delivered to each stimulated cardiac chamber.